

## Scientific Note

# ***RHOPALOSIPHUM RUFIABDOMINALIS* (SASAKI) AND *APHIS ARMORACIAE* COWEN (HOMOPTERA: APHIDIDAE) CONFIRMED ON WHEAT IN IDAHO**

Two species of aphids were found on wheat in Idaho for the first time during October, 1990. Both were found on winter wheat (*Triticum aestivum* L.) cv. 'Stephens' at the SW Idaho Research & Extension Center at Parma (Canyon County). Neither of these species is likely to become a significant pest as both have been in Idaho for at least five years and are only now being discovered on wheat despite intensive surveys of this crop since 1986. However, these additions to the wheat aphid fauna will further complicate species identifications of aphids found on cultivated cereals by increasing the number of taxa that must be recognized. Additionally, the genus *Rhopalosiphum* includes two common cereal pests, *R. maidis* (Fitch) and *R. padi* (L.), plus *R. insertum* (Walker). Separation of the latter three species requires detailed microscopic examination.

*Rhopalosiphum rufiabdominalis* (Sasaki) was collected between 16 Oct–19 Nov 1990 on winter wheat roots. *Rhopalosiphum rufiabdominalis* is permanently parthenogenetic on roots of rice and many other species of Gramineae in most parts of the world, though holocyclic populations overwintering on *Prunus* spp. have also been reported. It colonizes the roots of some dicots, especially Solanaceae and can be a serious pest on plants in hydroponic systems (Blackman, R. & V. Eastop. 1984. Aphids on the world's crops: an identification and information guide. John Wiley & Sons, New York; Blackman, R. et al. 1987. World perspectives on barley yellow dwarf. Proc. of intern'l. workshop, 6–11 July 1987, Udine, Italy. Dipartimento Cooperatizione Allo Sviluppol International Maize and Wheat Improvement Center (CIMMYT), pp. 197–214). It is known to vector barley yellow dwarf virus (Jedlinski, H. 1981. Plant disease, 65: 975–978; Johnstone, G. et al. 1987. World perspectives on barley yellow dwarf. Proc. of intern'l. workshop, 6–11 July 1987, Udine, Italy. Dipartimento Cooperatizione Allo Sviluppol International Maize and Wheat Improvement Center (CIMMYT), pp. 228–239; Paliwal, Y. 1980. Can. J. Pl. Path., 2: 90–92).

*Rhopalosiphum rufiabdominalis* was collected prior to these field collections in suction traps at Parma, Burley, Caldwell and Craigmont. There are no previously published records of collections from host plants in Idaho for *R. rufiabdominalis*. A field survey of cereal aphids between 16 Oct and 5 Dec 1990, on winter wheat showed decreasing numbers of *R. rufiabdominalis* as the season progressed (Table 1). This, along with late season suction trap collections and the presence of alatoid nymphs late in the season indicate the possibility of holocyclic overwintering in Idaho.

*Aphis armoraciae* Cowen was collected on 12 Oct 1990 from winter wheat using a Berlese funnel, and on 3 Dec 1990 on bluebunch wheatgrass T-2950 (*Agropyron spicatum* (Pursh) Scribner & Smith) at Parma, Idaho. *Aphis armoraciae* infests

Table 1. *Rhopalosiphum rufiabdominalis* (Sasaki) population on winter wheat (*Triticum aestivum* L.) cv. 'Stephens' at Parma, Idaho, 16 Oct–19 Nov 1990.

Sample date <sup>a</sup>	Aphid Stage					Total
	Nymph 1	Nymph 2–4	Alatoid	Apterae	Alatae	
16 Oct	0	48	0	1	0	49
22 Oct	0	12	0	2	0	14
8 Nov	7	4	1	5	0	17
19 Nov	0	1	0	0	0	1
5 Dec	0	0	0	0	0	0

<sup>a</sup> 20 tillers per sample and 10 samples.

roots and sometimes the aerial parts of plants in several families including Compositae, Cruciferae, Umbelliferae, and Gramineae (maize, wheat) (Blackman & Eastop 1984). *Aphis armoraciae* was previously collected from Bear Lake Co. on raspberry, Bingham Co. on potato, Canyon Co. on maize and roots of *Sisymbrium altissimum* L., Caribou Co. on potato, cabbage and radish, Franklin Co. on maize and *Aster* sp., Oneida Co. on *Chrysothamnus nauseosus* (Pallas) Britton and Teton Co. on potato (Gittins, A. et al. 1976. An annotated list of the aphids of Idaho (Homoptera: Aphididae). Rec. Bull., 95. College of Agric. Univ. of Idaho). *Aphis armoraciae* was also collected in suction traps at various areas in Idaho for several years from 1985–1990.

Voucher specimens from our collections from wheat are on deposit at the University of Idaho, SW Idaho Research and Extension Center, Parma, Idaho.

*Material Examined.*—*Rhopalosiphum rufiabdominalis*: IDAHO. CANYON Co.: Parma, 22 Sep 1985, and 1, 7, 15, 29 Sep 1987, suction trap, 1 specimen on each date; Caldwell, 21 Jul 1990, suction trap, 1 alate. CASSIA Co.: Burley, 18 Aug 1986, suction trap, 1 alate. LEWIS Co.: Craigmont, 25 Aug 1990, suction trap, 1 alate.

*Aphis amoraciae*: IDAHO. CANYON Co.: Parma, 12 Oct 1990, winterwheat, Berlese funnel, 7 specimens; Parma, 3 Dec 1990, bluebunch wheatgrass T-2950, 2 oviparae; Parma, 16 and 22 Oct, 8 and 19 Nov, 5 Dec 1990, *Triticum aestivum* 'Stephens,' total 81 specimens of various stages (see table).

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